

FIG. 1

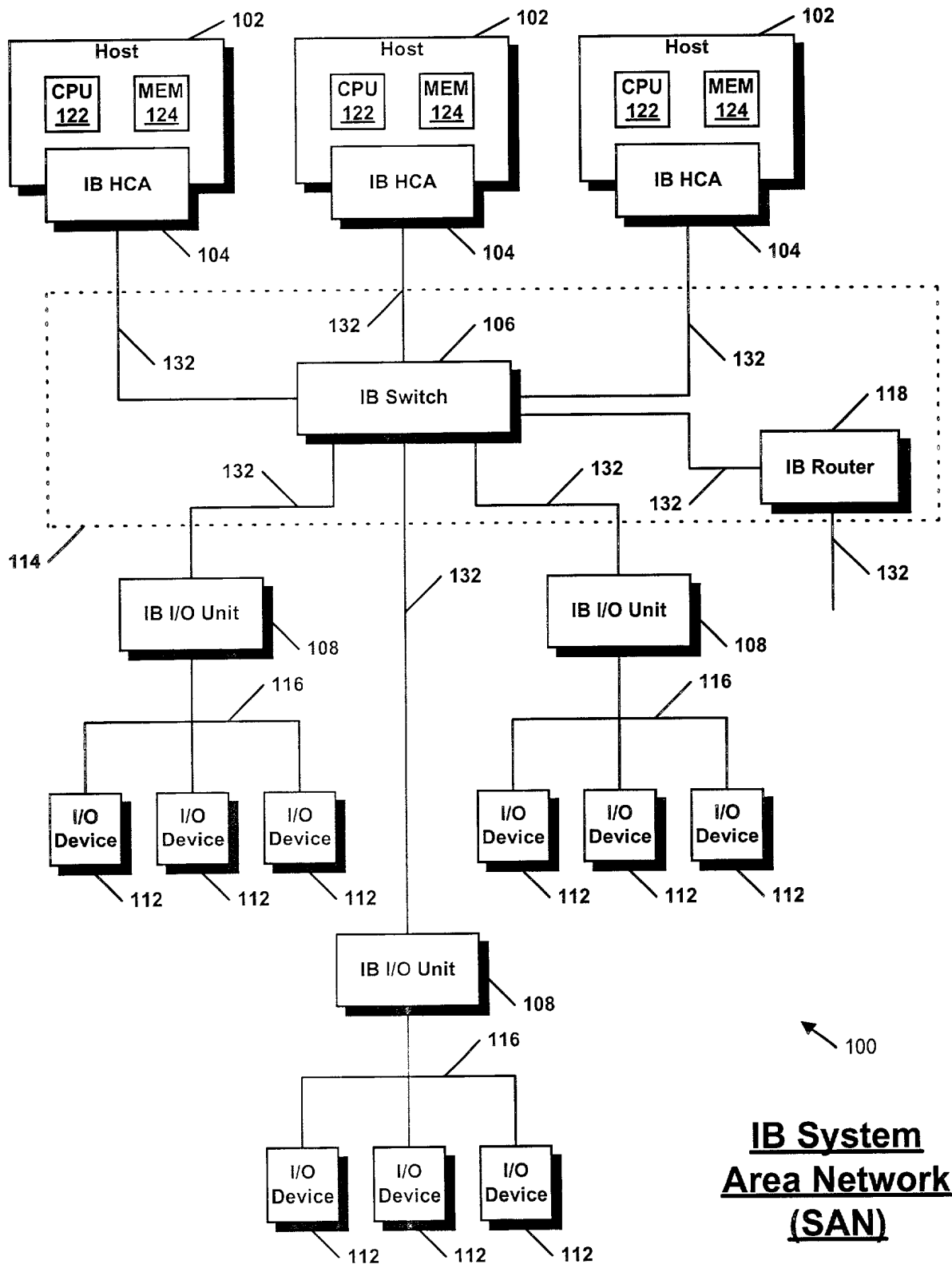
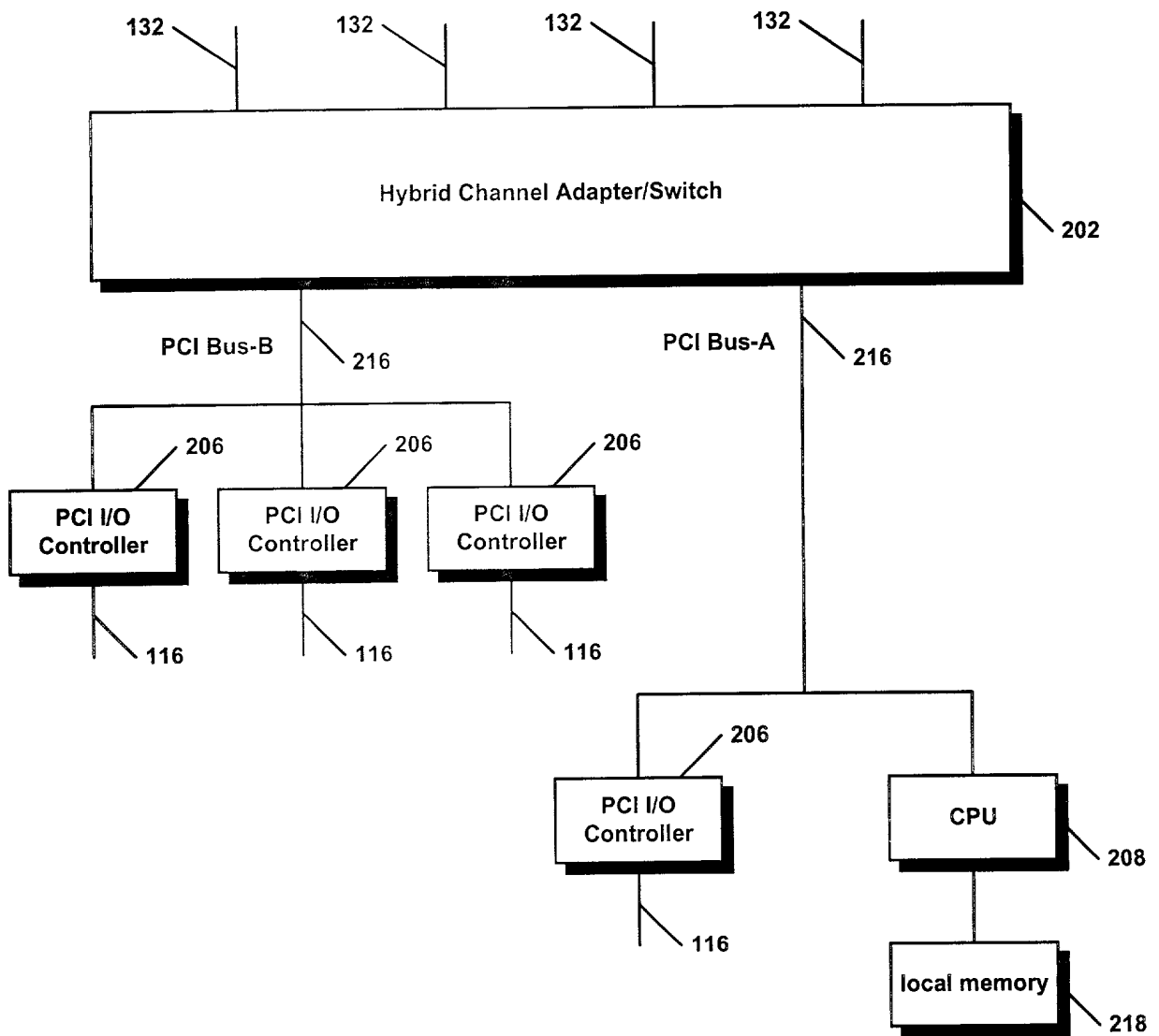
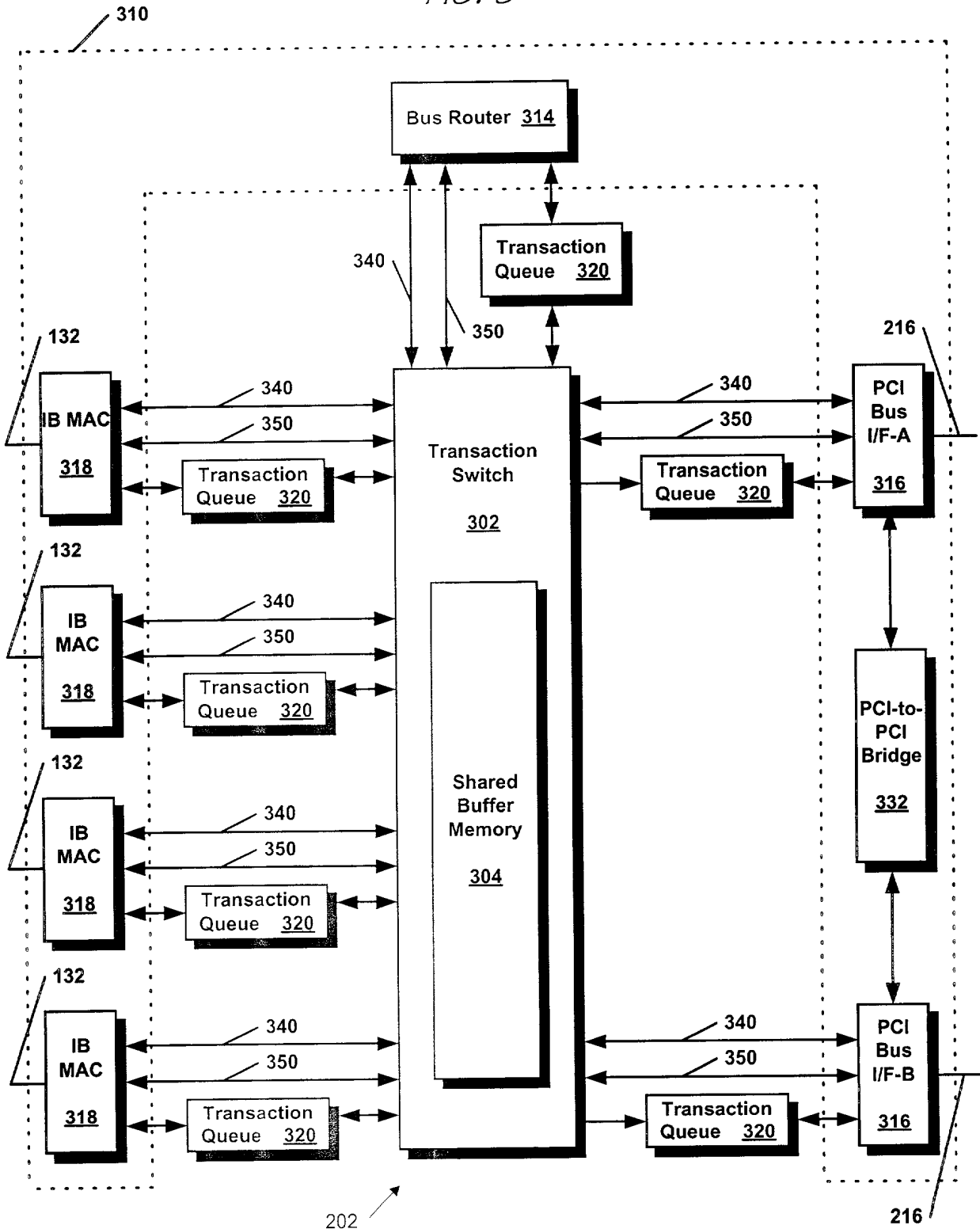


FIG. 2



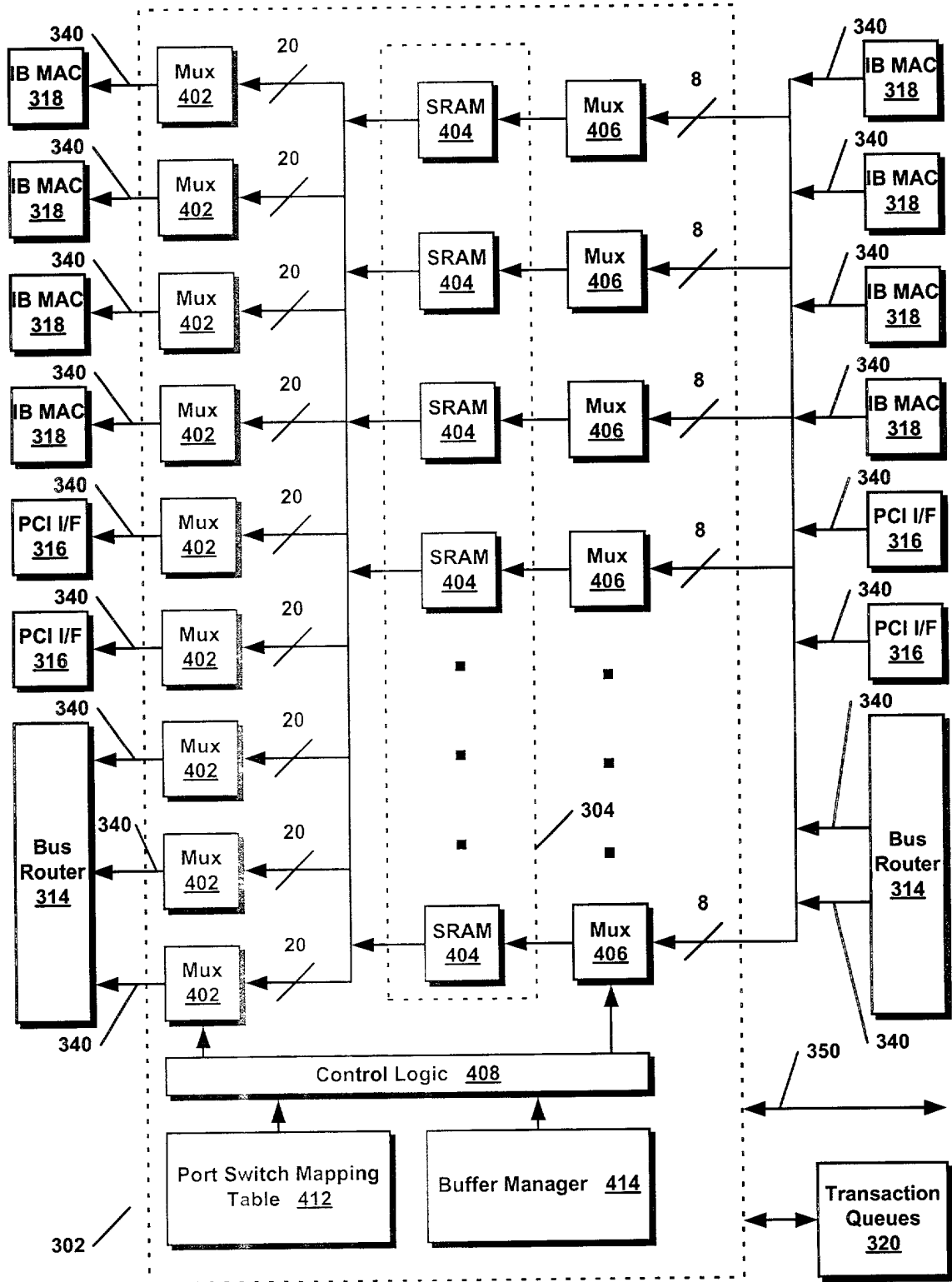
IB Hybrid Channel Adapter/Switch

FIG. 3



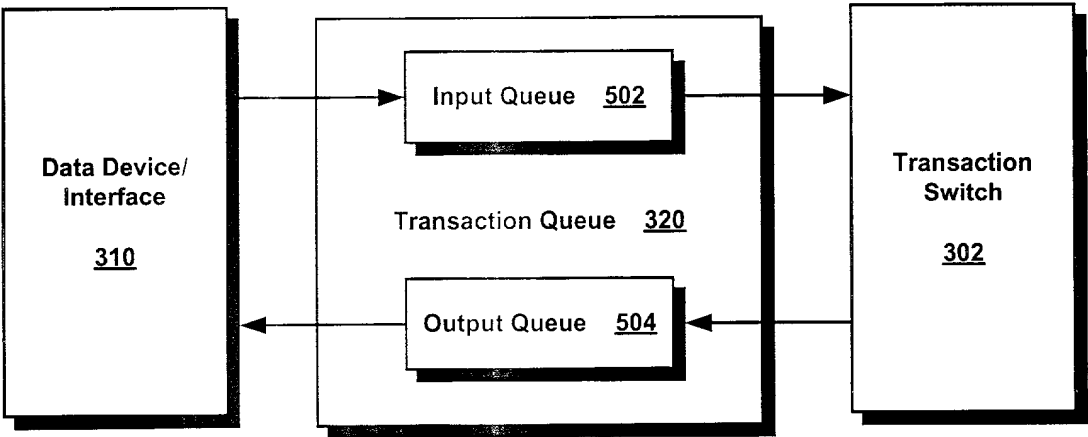
IB Hybrid CA/Switch with Transaction Switch and Shared Buffer Memory

FIG. 4



Transaction Switch Data Paths

FIG. 5



Transaction Queues

FIG. 6

DLID	Frame Error	LNH	Destination QP	Packet Length	VL	Buffer Address
<u>602</u>	<u>604</u>	<u>606</u>	<u>608</u>	<u>612</u>	<u>614</u>	<u>616</u>

MAC Input Queue Entry

600 ↗

FIG. 7

Tag	PCI Address/Port	Length	Offset	VL	Type	Buffer Address
<u>702</u>	<u>704</u>	<u>706</u>	<u>708</u>	<u>712</u>	<u>714</u>	<u>716</u>

Bus Router Input Queue Entry

700 ↗

FIG. 8

Not Raw	Tag	Packet Length	VL	Buffer Address
<u>802</u>	<u>804</u>	<u>806</u>	<u>808</u>	<u>812</u>

MAC Output Queue Entry

800

FIG. 9

Port	Frame Error	LNH	Destination QP	Length	VL	Buffer Address
<u>902</u>	<u>904</u>	<u>906</u>	<u>908</u>	<u>912</u>	<u>914</u>	<u>916</u>

Bus Router Output Queue Entry

900

FIG. 10

Tag	PCI Address	Length	Offset	PCI Type	Buffer Address
<u>1002</u>	<u>1004</u>	<u>1006</u>	<u>1008</u>	<u>1012</u>	<u>1014</u>

PCI Output Queue Entry

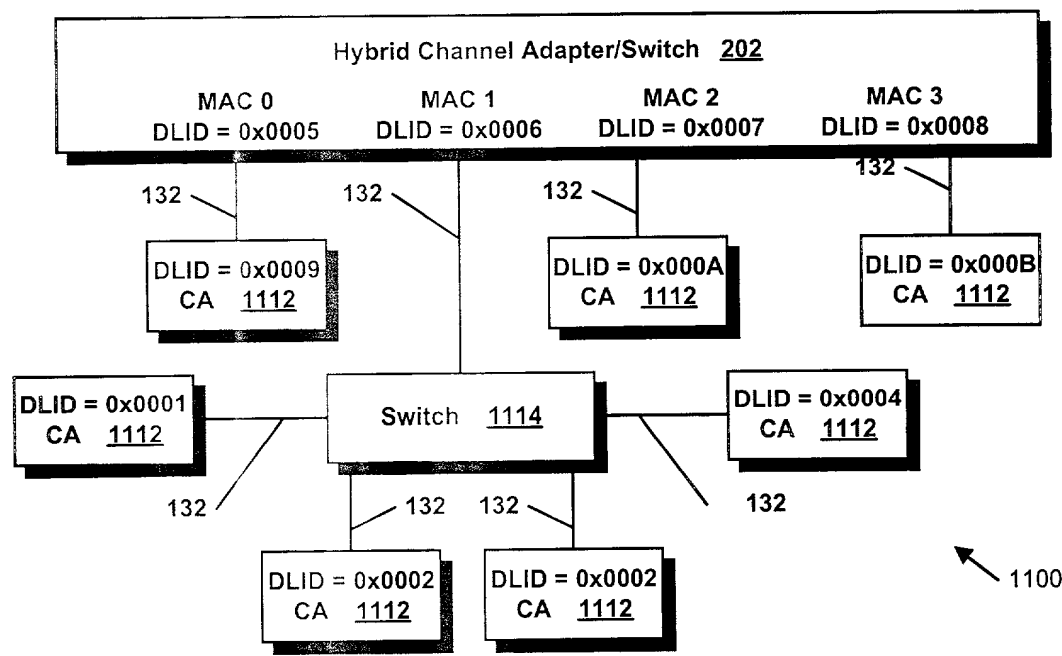
1000

FIG. 11

FIG. 11

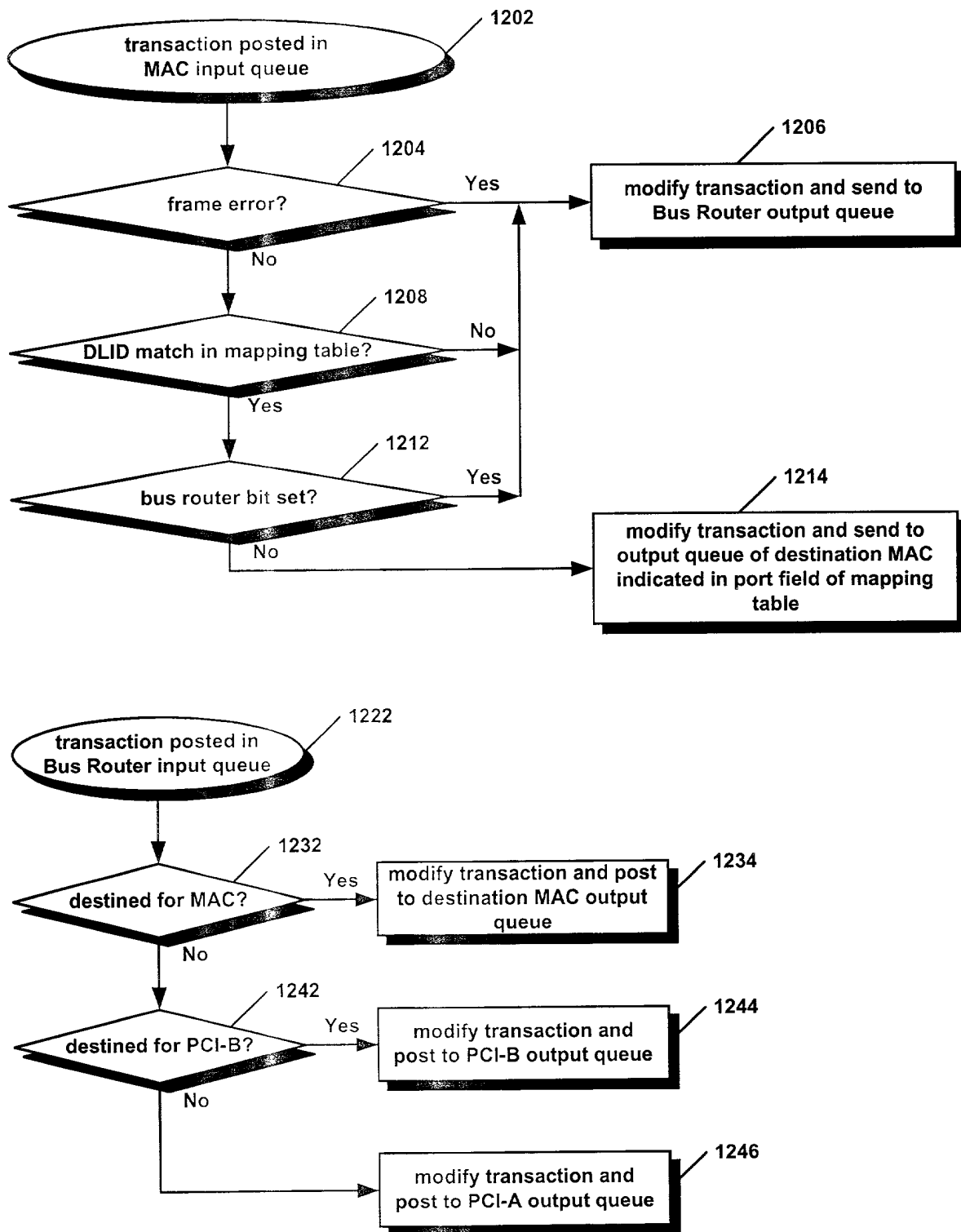
	Bus Router 1102	Port 1104	DLID 1106	Valid 1108
0	1	0	0x0005	1
1	1	1	0x0006	1
2	1	2	0x0007	1
3	1	3	0x0008	1
4	0	1	0x0001	1
5	0	1	0x0002	1
6	0	1	0x0003	1
7	0	1	0x0004	1
8	0	0	0x0009	1
9	0	2	0x000A	1
10	0	3	0x000B	1
11	0	2	-	0
12	0	1	-	0
13	0	3	-	0
14	0	2	-	0
15	0	2	0x0007	1

412



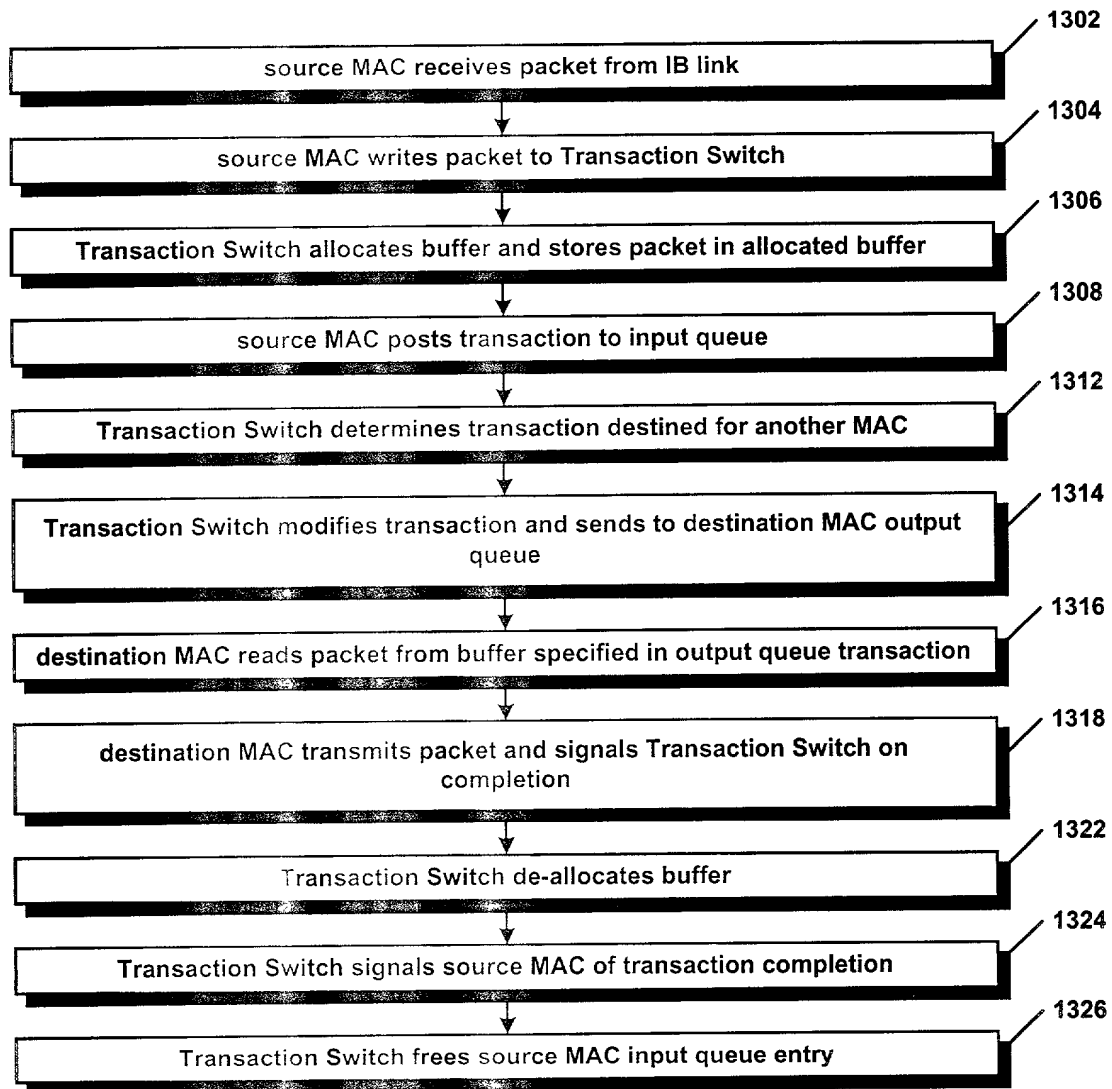
Port Switch Mapping Table in Example Network

FIG. 12



Transaction Switching

FIG. 13a

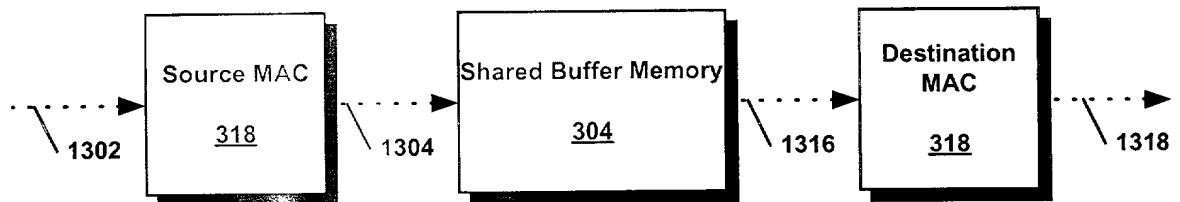
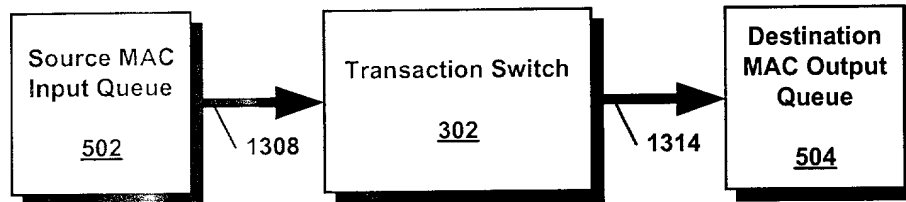


Packet Switching Operation

FIG. 13b

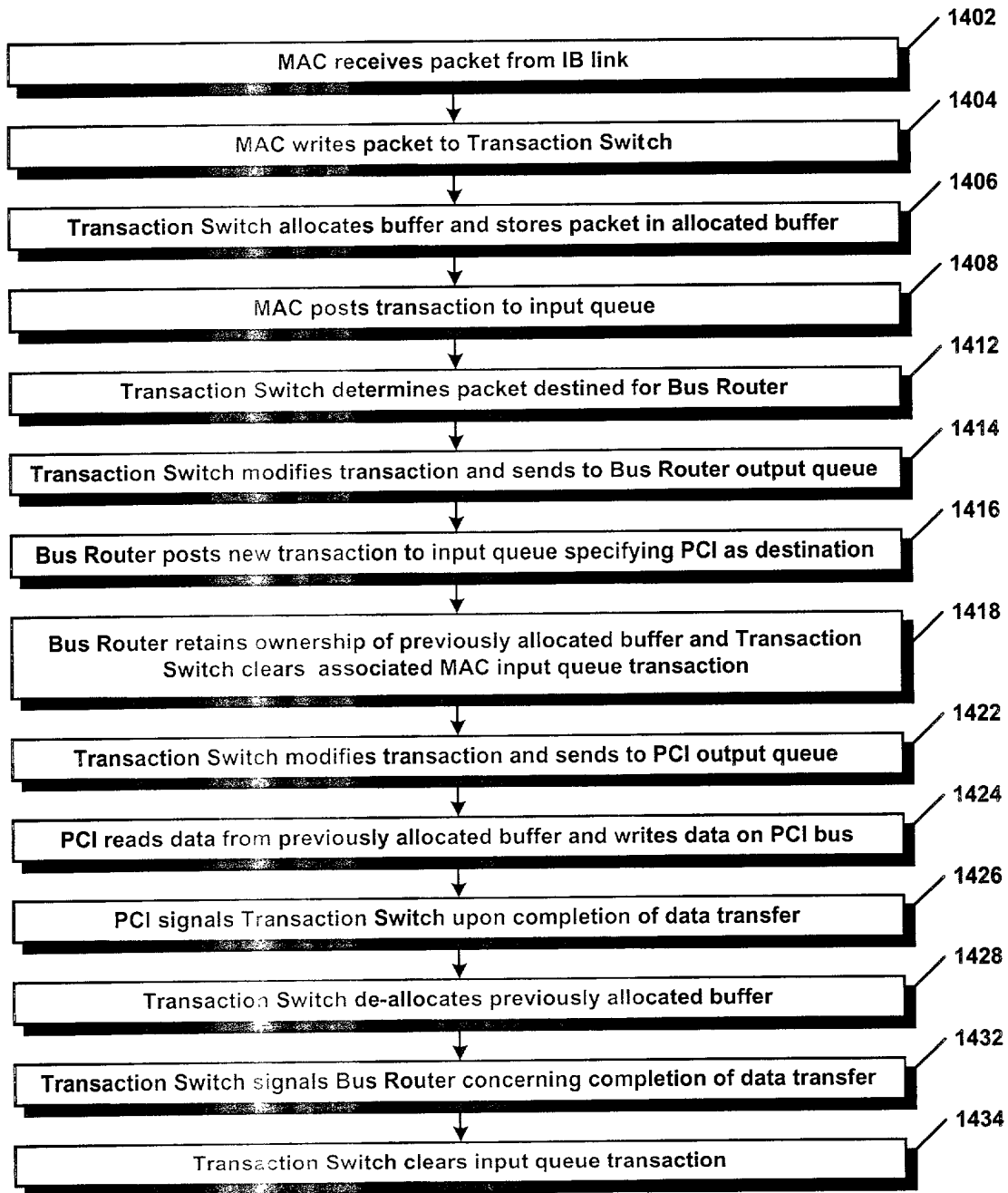
← transaction

← data



Packet Switching Operation

FIG. 14a

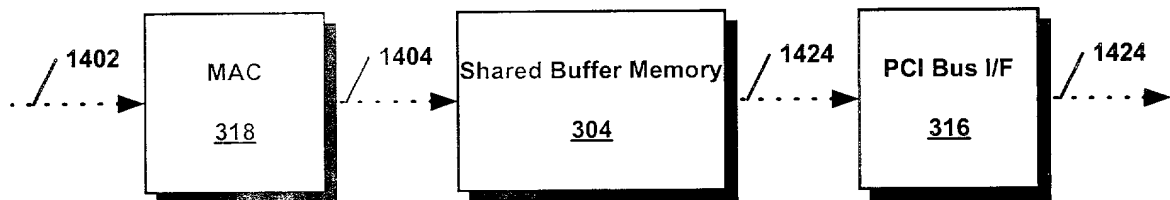
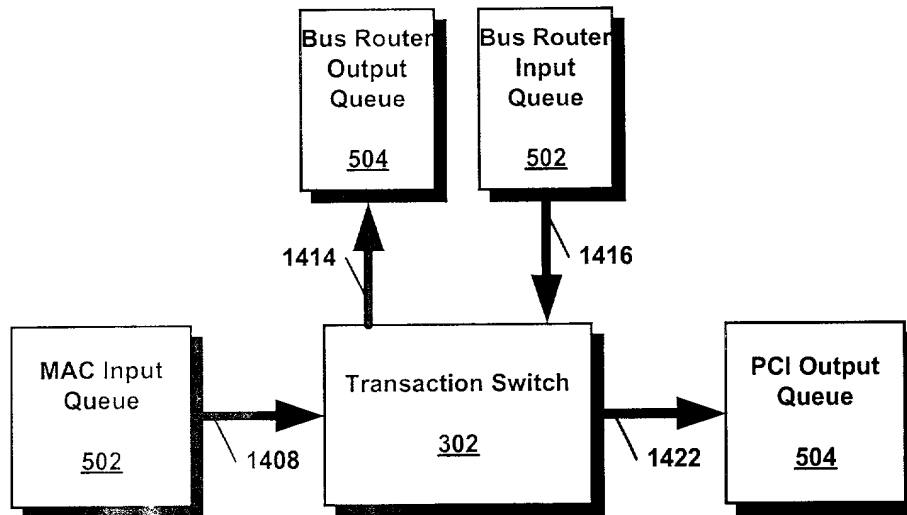


Packetized Data to Addressed Data Operation

FIG. 14b

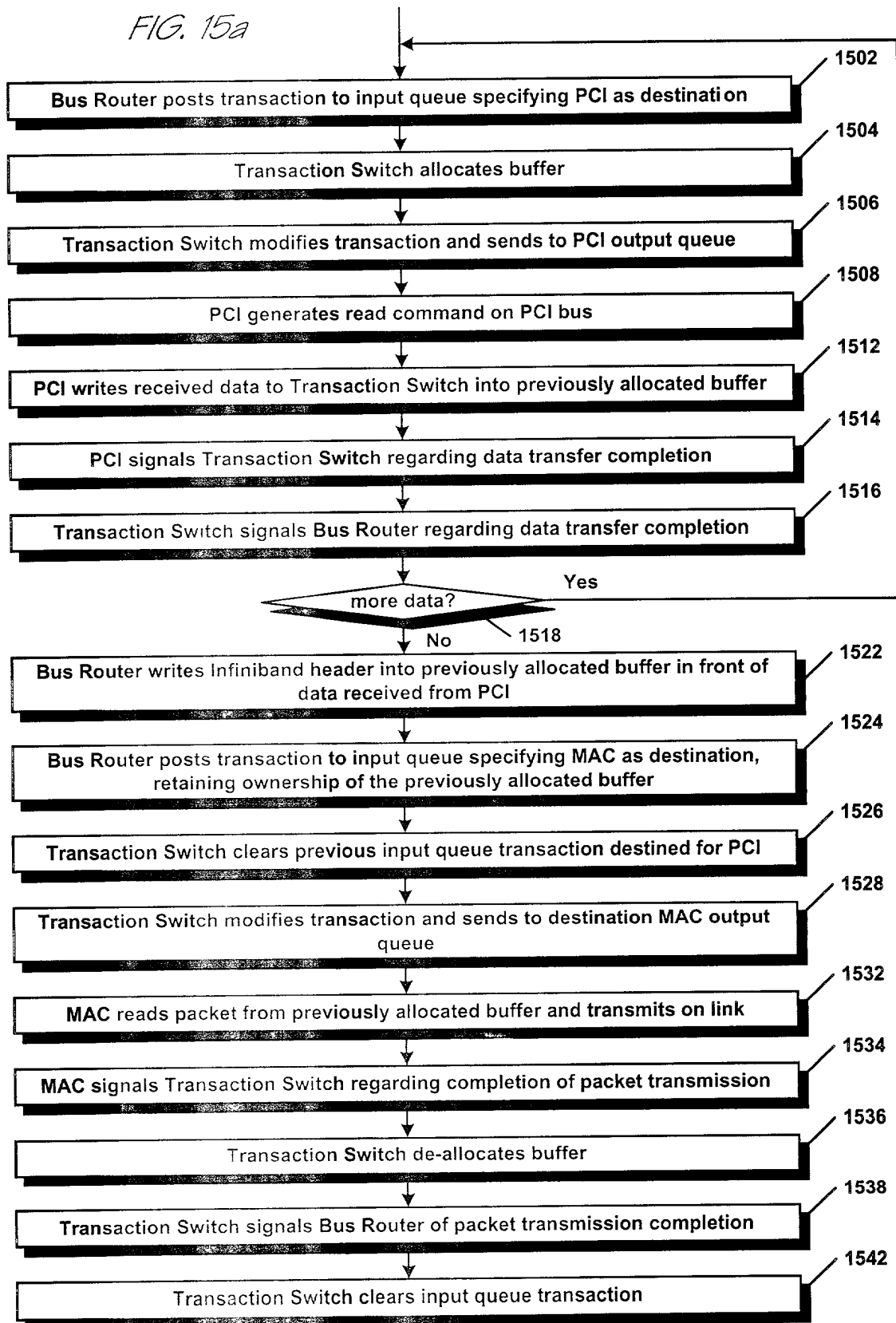
← transaction

← data



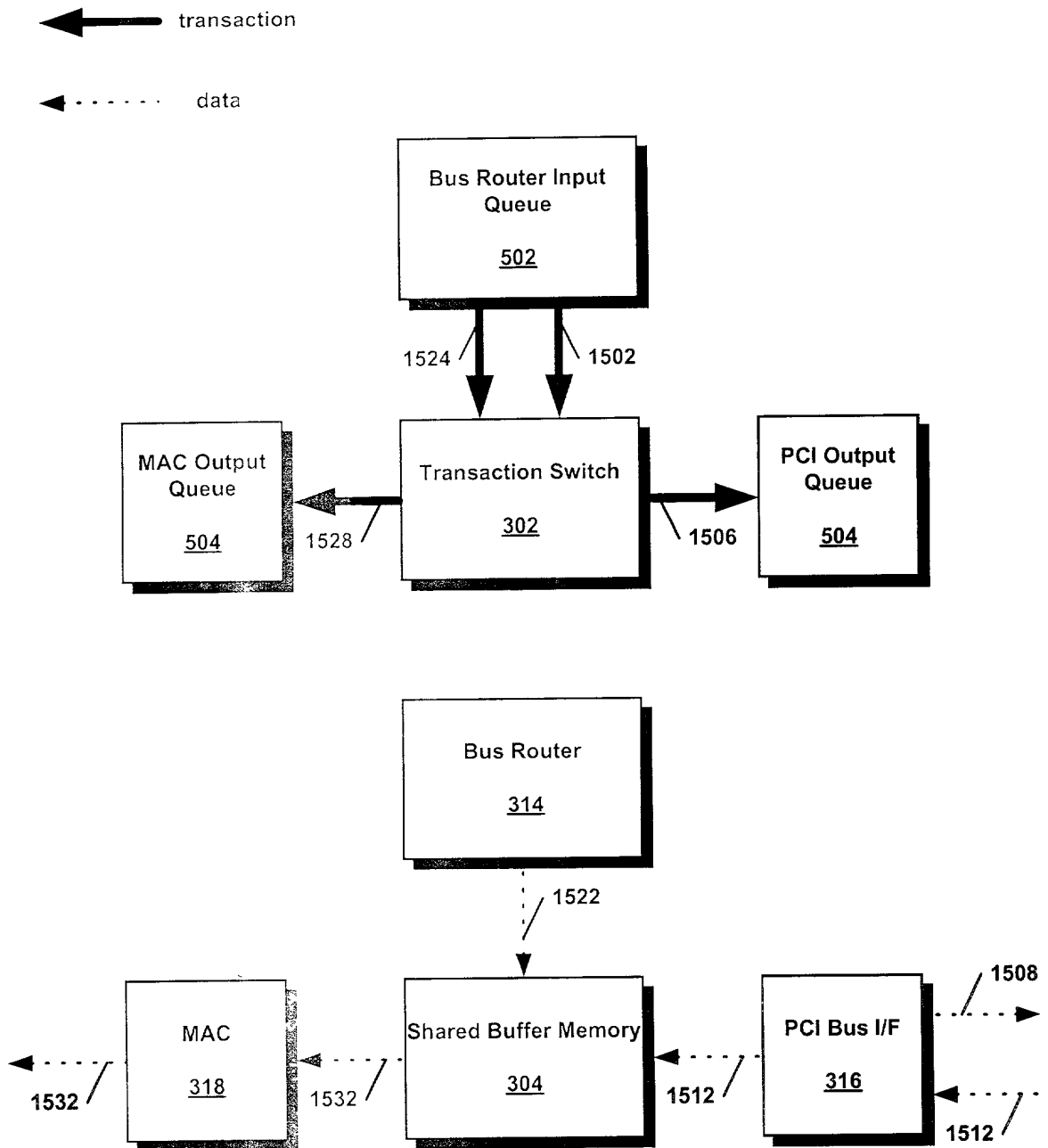
Packetized Data to Addressed Data Operation

FIG. 15a



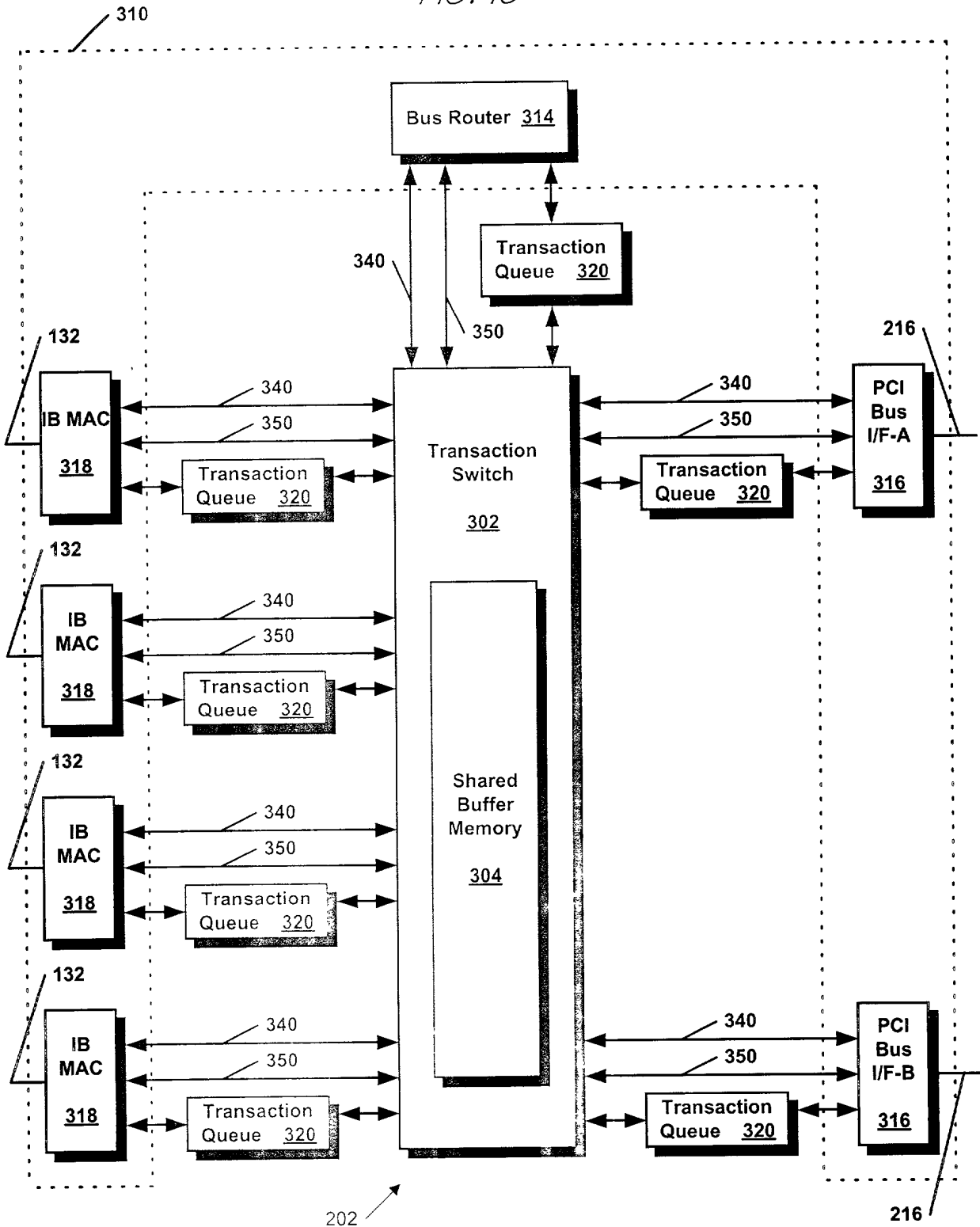
Addressed Data to Packetized Data Operation

FIG. 15b



Addressed Data to Packetized Data Operation

FIG. 16



IB Hybrid CA/Switch with Transaction Switch and Shared Buffer Memory

FIG. 17

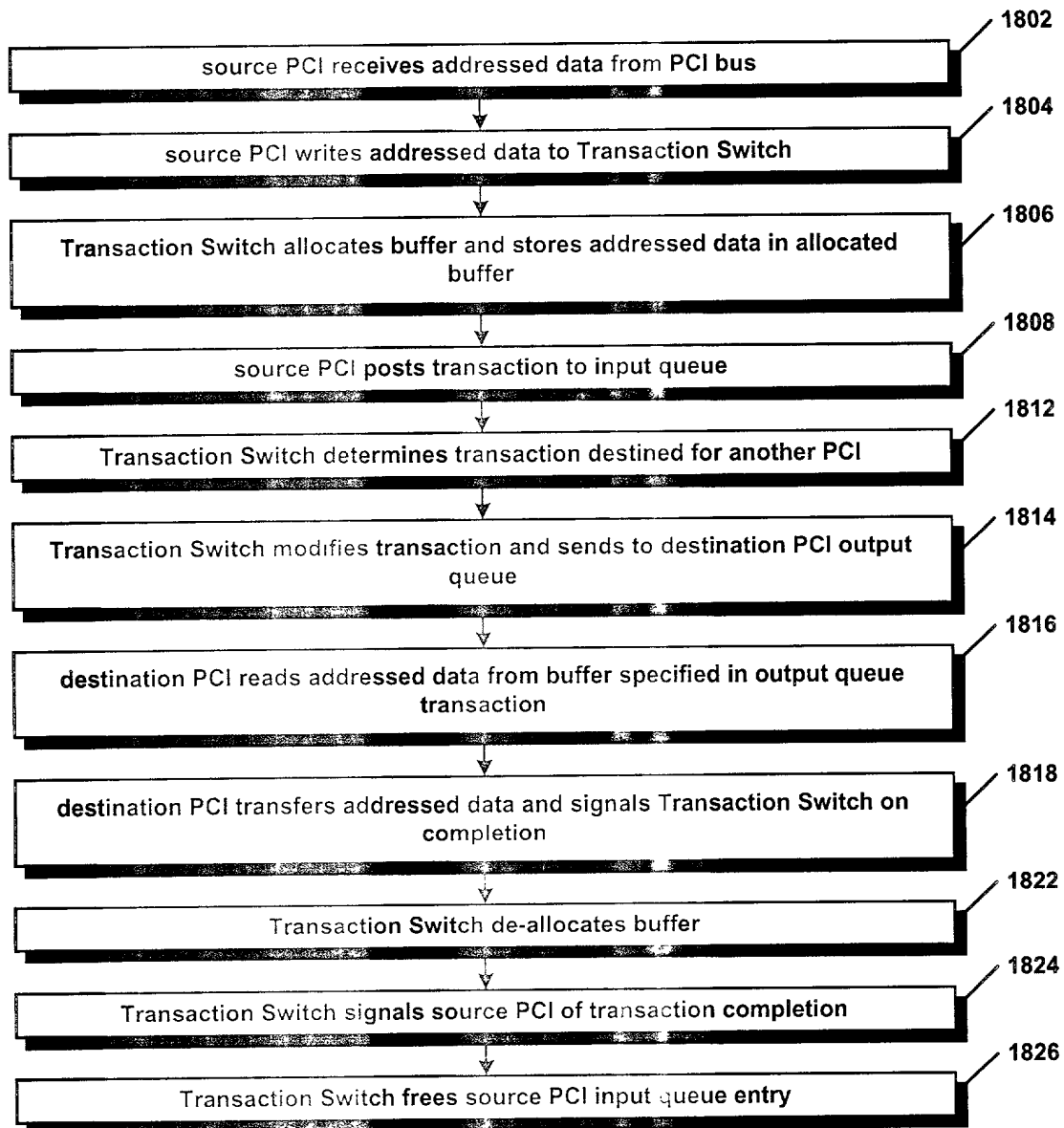
PCI Address	Length	Buffer Address	PCI Cycle Type
<u>1702</u>	<u>1704</u>	<u>1706</u>	<u>1708</u>

PCI Input Queue Entry

1700

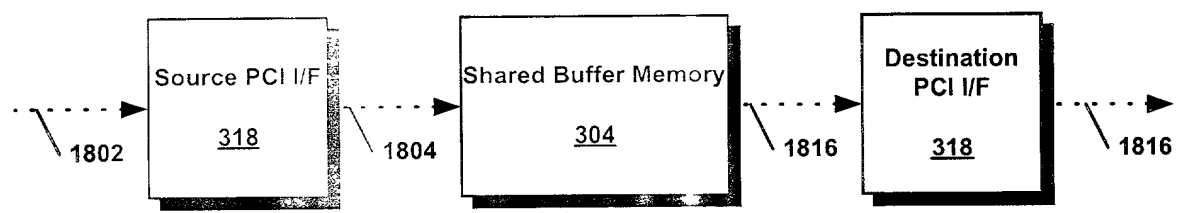
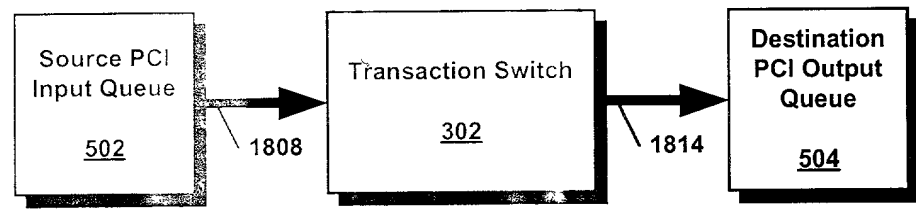
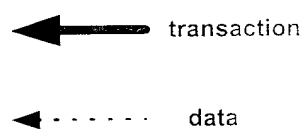
FIG. 17

FIG. 18a



Addressed Data Switching Operation

FIG. 18b



Addressed Data Switching Operation